

1. A buoy-to-sailboat distance indicator system for determining the distance between a buoy and at least one boat both floating in a common body of water, comprising:

a buoy transmitter deployed on said buoy, further comprising:

a speed of sound calibrator for producing a measurement of the speed of sound
5 through said body of water;

a radio transmitter for producing a radio signal transmitted through the air above
said body of water;

an acoustic transmitter for producing an acoustic signal transmitted from said buoy
through said body of water; and

10 a transmitter CPU for receiving said measurement of the speed of sound,
calculating the trigger times and triggering said radio transmitter and said
acoustic transmitter to transmit their said radio signal above and said
acoustic signal through said body of water respectively such that both
arrive at a predetermined distance across said body of water

15 simultaneously; and

at least one boat receiver deployed on one of said boats, further comprising:

a radio receiver for receiving said radio signal transmitted through the said air
above said body of water;

an acoustic receiver for receiving said acoustic signal transmitted through said
20 body of water;

a receiver CPU for determining the relative arrival time between said radio signal
and acoustic signal, and determining thereby the distance of said boat from

said buoy relative to said predetermined distance; and
an information display for displaying said distance of said boat from said buoy
relative to said predetermined distance.

2. A buoy-to-sailboat distance indicator system for determining the distance between a buoy and
5 at least one boat both floating in a common body of water, comprising:

a buoy transmitter deployed on said buoy, further comprising:

a speed of sound calibrator for producing a measurement of the speed of sound
through said body of water;

a radio transmitter for producing a radio signal transmitted through the air above
10 said body of water and for transmitting said measurement of the speed of
sound;

an acoustic transmitter for producing an acoustic signal transmitted from said buoy
through said body of water; and

a transmitter CPU for receiving said measurement of the speed of sound,
15 calculating the trigger times and triggering said radio transmitter and said
acoustic transmitter to transmit their said radio signal above and said
acoustic signal through said body of water respectively such that both
arrive at a predetermined distance across said body of water
simultaneously; and

20 at least one boat receiver deployed on one of said boats, further comprising:

a radio receiver for receiving said radio signal transmitted through said air above
said body of water and for receiving said transmitted said measurement of

the speed of sound;

an acoustic receiver for receiving said acoustic signal transmitted through said

body of water;

a receiver CPU for determining the relative arrival time between said radio signal

5 and said acoustic signal, and determining thereby the distance and sign of

distance of said boat from said buoy from said predetermined distance; and

an information display for displaying said distance and said sign of distance of said

boat from said buoy from said predetermined distance.

3. The system of claim 2, wherein said transmitted signal is intermingled with said transmitting

10 said measurement of the speed of sound.

4. The system of claim 2, wherein said transmitted signal is not intermingled with said transmitting

said measurement of the speed of sound.

5. The system of claim 1, wherein said information display comprises a first light which indicates
when said boat is at a distance greater than said predetermined distance.

15 6. The system of claim 1, wherein said information display comprises a first light which indicates
when said boat is at a distance less than said predetermined distance.

7. The system of claim 1, wherein said information display comprises a first light which indicates
when said boat is at distance greater than said predetermined distance and a second light which
indicates when said boat is at distance less than said predetermined distance.

20 8. The system of claim 2, wherein said information display comprises a first light which indicates
when said boat is at a first distance greater than said distance and side sign of distance of said boat
from said buoy from said predetermined distance.

9. The system of claim 8, wherein said information display comprises a second light which indicates when said boat is at a second distance greater than said distance and said sign of distance of said boat from said buoy from said predetermined distance.

10. The system of claim 2, where in said information display comprises a first light which indicates
5 when said boat is at a first distance less than said distance and said sign of distance of said boat from said buoy from said predetermined distance.

11. The system of claim 8, wherein said information display comprises a second light which indicates when said boat is at a second distance less than said distance and said sign of distance of said boat from said buoy from said predetermined distance.

10 12. The system of claim 1, wherein said buoy transmitter is brightly colored.

13. The system of claim 2, wherein said buoy transmitter is brightly colored.

14. The system of claim 1, wherein said boat receiver is brightly colored.

15. The system of claim 2, wherein said boat receiver is brightly colored.

16. The system of claim 1, wherein said boat receiver has a plurality of said acoustic receivers.

15 17. The system of claim 2, wherein said boat receiver has a plurality of said acoustic receivers.

18. The system of claim 1, wherein said system is identified by the word roab.

19. The system of claim 2, wherein said system is identified by the word roab.